

Compliance, Attachment, and Emotion Regulation in Infants and Children

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It is commonly believed that children's social development is determined to a large degree by their social interactions as infants and toddlers and that interactions with parents during this developmental period are most influential (Maccoby, 1992). According to Maccoby, one of the most historically enduring concerns in the study of social development is to determine which parenting practices are associated with the ability of children to comply with the behavioural standards of their parents and, eventually, of the larger society without direct supervision or control by parents. The purpose of the present paper is to draw together research findings regarding the development of compliance, attachment, and emotion regulation in children. This review will be useful in guiding clinical practice with children and families and of heuristic value in generating and refining research questions.

Children's compliance or non-compliance with the requests, instructions, or demands of parents occurs in the context of an on-going relationship (Maccoby & Martin, 1983). Relationships are transactional in that they are co-created by each of the participants; in parent-child relationships both parents and children affect the course of the relationship, although not always symmetrically (Maccoby, 1992). Parents have significantly greater power and competence than their children, especially during children's infancy. As children develop, they acquire greater social competence and there is a need for parents to change the strategies they use to obtain child compliance and the potential for conflict within the relationship increases. The manner in which parents and children handle conflict related to compliance issues will affect the long-term quality of their relationship (Greenberg & Speltz, 1988).

There is a large amount of evidence that the quality of early attachment relationships has a major impact upon social functioning beyond infancy and through the life-span (Cicchetti, Cummings, Greenberg, & Marvin, 1990). Security of attachment in infants and children has been shown to be affected positively by responsive parenting (Ainsworth, Blehar, Watters, & Sroufe, 1978). While the analogy is not perfect, responsive parental behaviour can be seen as a form of parental compliance with infants' demands for care and nurturance. I will argue that parents and children who comply with each other will be more successful in managing conflict in a manner that preserves the quality of the relationship.

Emotion regulation is the ability to moderate and cope with the arousal and feelings related to emotional experience (Kopp, 1989). Although the ability to regulate the effects of negative emotion is most relevant to the present paper, positive emotional experience can become aversive for infants if they are not able to regulate their arousal level (Tronick, 1989). I will argue that parents who have poor emotion regulation skills will not be effective in managing their relationship with their children and will not assist their children in acquiring effective emotion regulation skills. This will be shown to have direct effects upon attachment and compliance.

I chose to examine the connection among the constructs of compliance, attachment, and

emotion regulation for the theoretical reasons described above and for clinical reasons. Emde (1989) outlined the important aspects of parent-child relationships and, in Table 1, his list of the developmental tasks of children and parents is presented. The three social development tasks in Emde's list (attachment, affect regulation, and self-control; play and learning are not conventionally social development tasks) are functionally equivalent to compliance, attachment, and emotion regulation.

Table 1. Functional aspects of the care giving relationship

<u>Child</u>	<u>Parent</u>
Attachment (security-exploration)	Bonding (emotional availability and commitment)
Vigilance	Protection
Physiological regulation	Provision of organized structure (and responsiveness to needs)
Affect regulation and sharing	Empathic responsiveness
Learning	Teaching
Play	Play
Self-control	Discipline

From: R. N. Emde. (1989). The infant's relationship experience: Developmental and affective aspects. In A. J. Sameroff & R. N. Emde (Eds.), Relationship disturbances in early childhood (pp. 33-51). New York: Basic.

The "authoritative" style of parenting, described by Baumrind (1973), is related to

positive developmental outcomes in each of these areas. That is, cooperative, responsive, and democratic behaviour by parents who set and enforce developmentally appropriate limits is associated positively with children's rate of compliance, with the quality of children's attachment to parents, and children's ability to regulate emotional experience, especially regarding negative emotions. These issues are clinically important since compliance issues or behaviour problems are the primary reason for referral of children and families to mental health practitioners; they account for 33% to 75% of referrals (Wells & Forehand, 1985). I will argue that compliance cannot be completely understood or treated without considering the effects of both attachment and emotion regulation on parent-child relationships.

The remainder of this paper is divided into five sections. First, I will present a brief summary of a case from my clinical practice; I will refer to this case to illustrate the clinical importance of the issues discussed throughout the paper. In subsequent sections, I will present a selective, critical review of research on compliance, attachment, and emotion regulation, respectively. In the fifth section, I will present an integrative review that demonstrates how the three constructs discussed in this paper are connected.

A Clinical Case Study

Rodney and his mother, Mary, were referred for therapy following Mary's complaint that her son is hyperactive, aggressive, and impossible to control. They live in an isolated, northern, and predominantly Native community that is accessible only by air and situated about 500 km from the nearest major city. Approximately 1500 people reside in the community and services are limited. Medical care is provided by nurse practitioners and a visiting physician and the school serves children from Nursery to Grade 9.

Family History. Rodney is 6 years old and Mary is 26 years. Mary was physically and emotionally abused before and during her four-year marriage to Rodney's father; they had been divorced for four years when I met Mary. Mary's husband physically assaulted her on numerous occasions and, one time, locked her in a room where, she reported, she feared for her life. Mary has attempted suicide on two occasions and expressed suicidal thoughts frequently.

Rodney is the second of three children from this marriage; he has an older brother and younger sister and there is a fourth child fathered by Mary's current boyfriend. Mary said that Rodney's birth was unplanned and unwanted as she did not want to have a second child at that time. She stated that she does not like Rodney and does not want to remain responsible for his upbringing. She reported that her ex-husband continues to harass and threaten both her and her current boyfriend.

Rodney's grandmother has been his primary caregiver for much of his life but her attention has recently been focused on caring for her husband, who has cancer. When his grandfather became ill, Rodney returned to live with his mother, who has demonstrated limited ability to care for him. Neither Rodney's mother nor grandmother have demonstrated any ability

1 All names used in this paper have been changed to protect the identity of the persons involved.

to enforce limits upon his behaviour.

Clinical assessment. I first met with Rodney alone at his school where he was cooperative and friendly. I later met with Rodney and his mother together and, at first, Rodney sat quietly on a chair and listened to the adults' conversation for several minutes. However, he became very disruptive (he banged the table and pushed at my notepaper) when a question was directed toward him and he refused to answer. Rodney continued to smile and attempted to maintain eye contact with his mother, who scowled and looked away.

When he was unsuccessful in engaging Mary, Rodney began to hit her until she yelled at him to stop. Mary attempted unsuccessfully to restrain him from climbing on the furnishings and he ran out of the office, slamming the door. In the corridor, Rodney yelled and banged the walls and then ran out of the building, rang the main doorbell, which could be heard throughout the entire clinic building. He appeared outside the office window, began to climb on the frame, and bang on the window. While he was gone, Rodney ensured that he was not forgotten.

When I met with Rodney again without his mother present he answered questions appropriately and exhibited age-appropriate behaviour. This contrasted sharply with his disruptive and aggressive behaviour in the presence of his mother.

Conflicting Diagnoses. Rodney has received several conflicting diagnoses and the assessors' conclusions seemed to depend upon whether Rodney was seen alone or in the presence of his mother. The visiting general-practice physician saw Rodney and Mary together and prescribed a trial of Ritalin. He determined that Rodney was hyperactive and that medication was required to bring his behaviour under control. One month after this assessment, Mary said she had received a supply of Ritalin but decided, on her own, not to administer it to Rodney. Three weeks after the first assessment, Rodney was assessed by a multi-disciplinary team at a children's hospital in the city who met with Rodney both together with and apart from his mother. They concluded that Rodney showed no symptoms of hyperactivity and that a trial on Ritalin was contra-indicated. However, they noted severe deficits in Mary's parenting behaviour.

Further commentaries regarding this case are presented at the end of the sections on compliance, attachment, and emotion regulation. The focus of these commentaries will be to discuss the relevance of each construct for this mother-child dyad.

Compliance

Parents make requests and demands regarding their children's behaviour on a daily basis and children either comply or do not. In this section, I will briefly review recent research on compliance and noncompliance and outline the parenting behaviour that is related to a positive developmental outcome.

Children's compliance is generally considered positive and usually indicates that a child is willing and able to cooperate with the parent at the time a request is made. Children's noncompliance is more difficult to interpret. It may represent a problem in the relationship or it may be an instance of a child asserting her independence in a developmentally appropriate manner (Crockenberg & Litman, 1990; Kuczynski, Kochanska, Radke-Yarrow, & Ginius-

Brown, 1987). Compliance may be viewed as an index of the degree of cooperation between parent and child in negotiating care giving routines and behavioural expectations within the family (Maccoby & Martin, 1983).

Children's noncompliance may create problems in families if the behaviour becomes severe and frequent. According to the DSM-III-R, a diagnosis of conduct disorder may be made if there is a "persistent pattern of conduct in which the basic rights of others and major age-appropriate societal norms or rules are violated" and this pattern continues for at least 6 months (American Psychiatric Association, 1987, p. 53). Children who exhibit behaviour problems severe enough to be diagnosed as having a Conduct Disorder comprise an estimated 4% of the population at large (McMahon & Wells, 1989). However, the rate of children's noncompliance as an initial response to a parental request may be as high as 40% to 50% in non-problem families (Kuczynski & Kochanska, 1990). Kuczynski and Kochanska argued that this seemingly high rate of noncompliance in non-problematic families is too high for noncompliance "to be conceptualized exclusively in terms of childhood dysfunction" (p. 398).

Research has consistently shown that the most positive developmental outcomes occur in families where parents take a flexible approach to responding to children's noncompliance, which is the essence of the "authoritative" style of parenting first described by Baumrind, whose classification system has since been widely adopted by other researchers (Maccoby, 1992). The term "positive developmental outcome" is culturally relative; in North America it generally refers to a developmental course that results in children who are "happy, curious, affectionate, and self-confident" (Tronick, 1989, p. 112). Authoritative parents maintain control of their children's behaviour but are willing to listen to suggestions from their children regarding behavioural expectations. In contrast, abusive parents maintain rigid expectations of their children and frequently respond immediately to children's misbehaviour; that is, they do not attempt to determine why the child has misbehaved or to discriminate different types of misbehaviour (Trickett & Kuczynski, 1986).

Maccoby (1992) pointed out that research on socialization and the development of self-regulation in children has been studied under a number of guises including: conscience, moral development, and "out of sight compliance to parental requirements" (p. 1006). The current discussion is limited to parental perception of children's compliance in every day tasks within the family; a fuller discussion of moral development is beyond the scope of this paper. It should be noted, however, that children who exhibited the capacity for self-regulation in toddlerhood scored higher on a measure of internalized conscience 6 years later (Kochanska, 1991). Compliance and non-compliance in Kochanska's study were coded from naturalistic observations and included compliant responses and non-compliant responses that indicated a disturbance in self-regulation ability: passive noncompliance and defiance. It did not include more skilled non-compliant responses such as refusal and negotiation (see discussion below). The development of internalized conscience was also facilitated by maternal socialization behaviour that relied less upon power assertive methods.

Compliance is one possible response of a child to a parental request and is often contrasted with noncompliance. However, different types of noncompliant child responses have been identified and are related to different types of parental response. Kuczynski et al. (1987)

identified passive noncompliance, direct defiance, simple refusal, and negotiation as initial responses of two- and three-year-old children in addition to immediate compliance. In this study, children complied immediately 58% of the time. Similarly, Crockenberg and Litman (1990) developed 3 categories of child response to maternal directives: compliance, defiance, and self-assertion. Authors of both these studies provide a social skills interpretation of children's noncompliance.

In this view, some types of noncompliant response are developmentally more sophisticated than others since they contain elements of self-assertion. Kuczynski and Kochanska (1990) presented results from a longitudinal follow-up of the study by Kuczynski et al. (1987). The rate of immediate compliance with parental attempts at control remained virtually unchanged between the ages of 2 and 5 years (between 50% and 60%). The rates of passive noncompliance and direct defiance decreased while simple refusal and negotiation increased in frequency. Simple refusal and negotiation require more social skill than the other two responses and are indicators of a greater degree of autonomy among children who use them. Overall then, there is an increase in the relative rate of more skilled (and less aversive) responses versus less skilled responses between the ages of 2 and 5 years. These data suggest that children generally cooperate with their parents and that, as they develop, non-compliant responses that aim to obtain a change in parental requests become more frequent than simply oppositional responses. That is, children develop skill at self-assertion that enables them to have input into their parents' behavioural expectations. Further, children in this study who used the more skilled responses had fewer externalizing behaviour problems as assessed by the Child Behavior Checklist.

The question of whether the behaviour of children and parents affects the behaviour of the other in an interaction where the parent asserts control was addressed by Crockenberg and Litman (1990). They found that child defiance was associated with coercive attempts to exercise negative control by the mother while child self-assertion was associated with mothers' use of guidance. Negative control was defined as intrusive behaviour and expression of negative emotion and included physical punishment, criticism, and threats. Guidance was defined as non-intrusive interaction that included offers of help, explanations, and simply standing or sitting beside the child. When mothers used negative control they were more likely to elicit child defiance than either self-assertion or compliance. Control plus guidance by the mother was most likely to elicit compliance. These results were generally consistent in both home and laboratory settings, which supports the ecological validity of the study.

Another result reported by Kuczynski and Kochanska (1990) suggests that children are learning about the mechanics of relationships through interaction with their parents. Following their social skill approach to the development of noncompliance, they computed the correlation between skill level manifested in children's noncompliance strategies and the strategy that children used to control their mother's behaviour. Children who responded to their mother with direct defiance or whining used less sophisticated strategies such as unclear commands or reprimands [e.g., the correlation between whining and indirect commands = .39 ($p < .01$) and with reprimands = .23 ($p < .05$)]. More skilled children who responded by bargaining when their mothers attempted to assert control tended to use the more sophisticated strategies of bargaining

and explanations in their own attempts to control their mother's behaviour ($r = .26, p < .05$).

The studies cited here suggest that compliance is the most common response by children to parents' attempts at control. However, a significant proportion of children's initial responses are some form of noncompliance. The developmental data of Kuczynski and Kochanska (1990) and the interactional data of Crockenberg and Litman (1990) support the view that children are active partners in their relationship with their parents and that noncompliance may at times be a developmentally appropriate way for children to assert their autonomy. Further, certain parental responses, but not power assertion, serve to maintain cooperative relationships with children.

Case Commentary. In the case described earlier, there were obvious and severe compliance problems. Rodney was able to cooperate as long as his mother was not present or she remained the focus of attention. His attempt to distract the interviewer so that he would not have to answer questions resulted in an escalating series of coercive exchanges with his mother (cf. Patterson, 1982). Mary's attempts at controlling Rodney were all examples of "negative control" described by Crockenberg and Litman (1990). They resulted in further defiance by Rodney. It is possible that if she had asked what he wanted or given him an idea of what to expect in the interview, Rodney may have been able to cooperate, although it would take him some time to adapt to the change in his mother's behaviour. It is likely that much of Mary's parenting behaviour at home consists of coercive attempts at control rather than attempts to solicit cooperation.

Attachment

Infants have biological and psychological nurturance needs that must be met by their caregivers (Emde, 1989). In well-functioning relationships, an infant's cries of distress or discomfort act as a signal for a caregiver to act to reduce the infant's distress. These interactions recur on a daily basis and are the foundation of attachment relationships between infants and their caregivers. A substantial body of research has demonstrated that the quality of an attachment relationship depends upon the degree of responsiveness of the caregiver to an infant over time (see Bretherton, 1987 for a review). In this section, I will briefly review research on children's development of attachment relationships to parents.

Bowlby (1969) developed the attachment construct by incorporating observations from ethology. Work by Ainsworth (e.g., Ainsworth et al., 1978) was particularly important to developmental psychology; she expanded Bowlby's framework and developed the tools for the empirical study of attachment. Bowlby hypothesized that attachment is a biological system whose function is to provide infants with "a secure base." The attachment figure or caregiver responds or does not respond to signals of distress from the infant and, over time, a pattern emerges where the infant modifies her attachment behaviour as a function of responsiveness of the caregiver. Caregivers provide a secure base to the extent that they enable their infants to explore their environment by remaining available and by providing comfort when the infant is distressed (Bowlby, 1988; Bretherton, 1985).

A central component of the attachment system is the internal working model, proposed by Bowlby (1969) and elaborated by Bretherton (1985). It is seen as the infant's representation of

the social world and includes self-concept information as well as a model of the caregiver(s). According to attachment theory, infants construct an internal working model incorporating the pattern of responses by caregivers over time and from this model develop expectations regarding caregivers' responses to her or his signals of distress. The internal working model provides a mechanism to show how the attachment system operates beyond infancy. In toddlers, older children, adolescents, and adults the internal working model is updated as a result of new information although different attachment behaviour is more developmentally appropriate in older persons. Securely attached toddlers, for example, may be comforted by a vocal signal from their mother in the next room while an infant may need to be picked up and held in order to be comforted.

The primary means of assessing quality of attachment in infants is the Strange Situation (Ainsworth et al., 1978). In this procedure, infants' responses to separation and behaviour upon reunion with a caregiver are used to determine whether an attachment relationship is secure or insecure. Attachment relationships are classified as secure (Category B), insecure (either avoidant, Category A; or ambivalent/resistant, Category C), or disorganized/disoriented (Category D), a fourth classification recently developed (Main & Solomon, 1990). Recently, researchers have devised empirical measures of attachment for children at older ages (Bretherton, Ridgeway, & Cassidy, 1990; Main & Cassidy, 1988) and a retrospective measure that assesses representation of attachment relationships in adults (Main, Kaplan, & Cassidy, 1985). The latter has also been used with adolescents (Kobak, Cole, Ferenz-Gillies & Fleming, 1993).

Ainsworth (1990) argued that a central feature in the development of a secure attachment relationship is whether the relationship can be characterized as a "goal-corrected partnership" in which both infant and caregiver modify their behaviour in response to each other. To illustrate, the quality of an attachment relationship, assessed using the Strange Situation, is affected by the history of the relationship and may change if the responsiveness of the caregiver changes (Egeland & Farber, 1984). Egeland and Farber found that infants who were classified as anxiously attached at 12 months could be classified as securely attached at 18 months if their mothers became more responsive to their needs and generally gained competence in parenting skills. However, about 25% of the infants initially classified as securely attached were later classified as anxiously attached in dyads with mothers who were more angry, aggressive, and suspicious; who had an increase in life stress; and who had less social support. Note that the Strange Situation is an assessment of infant behaviour, so these results indicate that infants have changed their behavioural responses as a result of the behavioural change in their primary caregiver (the majority of mothers in this study were single).

The factors involved in development of an attachment relationship are at the level of analysis that Sameroff (1989) called mini-regulation. That is, the patterns of interaction over time, especially the responsiveness of caregivers, are more important than moment-to-moment interaction. The temporal stability of attachment relationships is related to the continued responsiveness of parents to infants' and children's needs.

An attachment relationship between an infant and mother is more likely to be insecure if the mother is diagnosed as depressed (Radke-Yarrow, Cummings, Kuczynski, & Chapman,

1985). One explanation of this result is that depressed mothers are inconsistently responsive to their infants' needs and infants are less able to predict how their mother will respond to their attachment behaviour. However, maternal depression alone does not explain this result. Radke-Yarrow et al. found that insecure attachment was better predicted by the degree of a mother's expression of negative emotion than by her diagnosis.

At the micro-level of analysis, the work of Tronick (1989) suggests that emotion plays a central role in parent-child relationships. In a review of his work examining the interaction of mothers and infants, he argued that infants become distressed when mothers do not respond to infant attempts at regulating the mothers' expressed emotion (i.e., the still-face procedure). Thus, even a temporary lack of control in emotional communication is distressing for infants. The result in terms of quality of attachment seems to be magnified if this pattern persists, as suggested by the results of Radke-Yarrow et al. (1985).

Case Commentary. There is a pattern of transgenerational recreation of poor quality attachment relationships in this family. There are insufficient data to determine the attachment quality of either Mary or Rodney. However, Mary stated that she grew up in an abusive, alcoholic household. It appears that she is recreating the same pattern with her children. She has none of the factors that Egeland, Jacobovitz, and Sroufe (1988) found enabled women to "break the cycle of abuse;" that is, she was not interested in individual therapy and she had never had a supportive relationship in childhood with an attachment figure or in adulthood with a spouse. Mary reported that she did not want to continue to be responsible for Rodney's care. It appears that Rodney is aware of this rejection at some level and he alternately approaches and rejects his mother; it is probable that he would be in Category D, disorganized/disoriented, if an assessment of attachment were conducted.

Emotion Regulation

Interactions between parents and children evoke emotional responses in both partners and these emotional responses frequently motivate subsequent behaviour. The emotion regulation and emotional communication skills of each partner can affect how a parent-child relationship develops but early emotional communication is often highly ambiguous. For example, an infant's hunger cry may produce anxiety in a father, who may attempt to determine the cause of his child's distress and to relieve it. The father may first check the infant's diaper for wetness, add or remove clothing to regulate temperature, or pick the infant up to provide comfort prior to finding the "correct" solution of giving the infant a bottle. This solution will reduce the arousal level of both father and infant and is an example of early emotion regulation. In this section, I shall discuss definitions of emotion and emotion regulation and briefly review relevant research on the development of emotion regulation in infants and young children and outline the role that parents play in this development.

It is beyond the scope of this section to review theories of emotion and emotional development. Dodge and Garber (1991) pointed out that it is easier to obtain a consensus about whether a particular exemplar is an emotion than to obtain a consensus about the definition of emotion. Theorists define emotion in different ways and their definitions highlight different

aspects of emotional experience. For example, definitions of emotion have focused on: a) feeling states, operationalized by self-reports about these states; b) physiological reactions and the feedback from them; c) facial expressions and feedback from them; or d) cognitions along with an undifferentiated arousal (Barrett & Campos, 1987).

Adoption of a functional approach to emotion and emotional development facilitates consideration of the role that emotion plays in children's social development within the family. A functional approach was advocated by Barrett and Campos (1987) who defined "emotions as bidirectional processes of establishing, maintaining, and/or disrupting significant relationships between an organism and the (external or internal) environment (p. 558; emphasis in the original). Dodge and Garber (1991) outlined a scheme for conceptualizing emotion regulation that combines aspects of more traditional concepts of emotion with the functional approach defined here.

Dodge and Garber (1991) argued that emotion regulation occurs between and within three domains or levels of analysis: a) neurophysiological-biochemical, b) cognitive-experiential, and c) motor-behavioural and that supportive and/or disruptive elements from the environment affect emotion regulation in each of these three domains. For example, the behavioural and cognitive technique of biofeedback may be used to regulate skin temperature and a person's success in using it may be facilitated by a supportive therapist. Or, a child's ability to resist temptation using a cognitive strategy such as redirecting attention may be disrupted by a person who continually reminds the child of the object of temptation.

The main focus of emotion regulation research (e.g., Kopp, 1989) has been on regulating negative emotion; however, infants also need to regulate the arousal associated with positive emotion. An infant playing "peek-a-boo" with her or his mother will express surprise and happiness each time the mother re-appears, for a number of turns. When the arousal threshold is close to being exceeded, the infant will turn away, signaling to the mother to stop. If the mother does not heed this signal and continues to play the game, the infant's happiness will likely turn to distress (Tronick, 1989).

The development of emotion regulation skill is primarily dependent upon caregiver intervention for young infants (Kopp, 1989). In the illustration at the beginning of this section, the infant's negative emotional arousal caused by hunger was reduced by the intervention of the father. The course of development of emotion regulation skills is generally from external control by the environment, including parents, to greater internal control by infants and older children. Infants learn emotion regulation skills from different sources. Some skills are developed through serendipity or self-discovery; an infant may rock or suck a thumb and find that this action reduces her or his arousal level. Through conditioning, infants associate these actions with reduction of arousal and eventually bring these emotion regulation skills under voluntary control (Kopp, 1989). The development of language and cognitive skills enhances the ability of young children to regulate emotion responses (Dodge & Garber, 1991; Kopp, 1989).

Cognitive development is particularly important for the development of emotion regulation skills. This has been shown in research regarding infant and toddler behaviour in response to separation from a caregiver. Young infants (12-18 months of age) may not calm down until they are physically reunited with their caregiver and held while older children may be

able to calm themselves by hearing a reassuring statement from the caregiver in a nearby room. At an even more advanced level of development, six-year-olds are able to predict how they would respond to a two-week separation from their caregiver (Cicchetti et al., 1990).

Other skills are acquired through interaction with caregivers whose actions may inform the child about the degree of threat in a situation, an instance of social referencing (Walden, 1991). Infants are often disturbed by new events or people in their social world; young infants seek physical contact with a caregiver when they perceive a threat. Through the sense of security imparted through close bodily contact, caregivers can reassure infants that they are safe and these situations are excellent opportunities for caregivers to teach new coping skills (Bretherton, 1987).

Coping with stress or regulating a negative emotional state is often accomplished by verbal or nonverbal images that serve to distract from or facilitate coping with a stressor. Development of this skill may be facilitated by a caregiver telling a child that the child can cope with a particular situation; later, the child may use a self-statement based upon the caregiver's message to cope with a similar situation. For example, a twelve-year-old boy, seen in my clinical practice, often imagined listening to a particular song that reminded him of positive times with his mother; this had a calming effect for him when he was particularly distressed.

How parents respond to children's expressions of distress will affect both how children express distress and how they respond to others' expressions of distress (Radke-Yarrow, Zahn-Waxler, & Chapman, 1983). Stressful situations can provide an opportunity for the child to learn new skills for coping with distressing circumstances if the parent responds in a "permission-giving" manner: that is, the parent allows the child to express her or his distress. Some parents are not able to respond this way; for example, parental depression results in a restriction of children's expression of distress while abusive parents frequently respond to children's distress with anger. In these cases, it is likely that the child will tend to inhibit expressions of distress.

How emotion and emotion regulation are handled within a family will affect the development of parent-child relationships and the social development of individual children. There is considerable evidence of cross-generational transmission of depression (Rutter & Garnezy, 1983). Depressed parents do not provide adequate models for young children in learning to express and regulate their emotions. Research by Cummings (e.g., Cummings & Cummings, 1988) has shown that children are negatively affected by expressions of anger. Later work has shown that unresolved (unregulated) anger has a significantly more negative effect on children (Cummings, Ballard, El-Sheikh, & Lake, 1991). More consideration of the role of parents in children's development of emotion regulation skills can be found in the following case commentary and in the integrative review.

Case Commentary. Both Rodney and Mary exhibit inappropriate emotion regulation skills, particularly in relation to negative emotion. During our initial interview, Mary attempted to ignore Rodney's increasingly disruptive behaviour but ultimately over-reacted. Her response seemed to be either all or none and she usually intervened too late in an interaction to effect change. Although she was not physically abusive during the interview, there was strong suspicion within the community that she was abusive at home. In another context, Mary

attempted to hang herself after being arrested for driving a skidoo while intoxicated. This is a rather inappropriate response to the embarrassment of arrest. There is little evidence that Mary was able to model appropriate emotion regulation skills for Rodney and considerable evidence that his skills were poor.

Integrative Review

In the preceding three sections of this paper I have presented brief reviews of research concerning the effects of parenting behaviour on the development of compliance, attachment, and emotion regulation in children. In this section, I will discuss research that illustrates the theoretical and empirical connections among the three constructs that are the focus of this paper. The purpose of this review is to demonstrate how research and clinical intervention may be enhanced when the developmental processes underlying these constructs are examined as complementary rather than separate processes.

In the theoretical model that underlies the following presentation, emotion regulation ability is seen as the link between compliance and attachment. Emotion regulation is an important area of development on its own and will be shown to play a central role in the development of compliance and attachment in children. Specifically, emotional responses accompany many if not all interactions between parents and children; the degree of consistency and manner in which these responses are managed over time affect the development of both compliance and attachment. A further goal of this presentation is to demonstrate that similar features of parental behaviour produce positive developmental outcomes in children's compliance, attachment, and emotion regulation and that problems in one of these areas may cause or maintain problems in other areas.

Cicchetti et al. (1990) argued that it is important for theoretical and clinical reasons to explore the similarities between attachment and other aspects of parent-child relationships. However, attachment, compliance, and emotion regulation are distinct constructs and important information would be lost if distinctions between them were blurred. They argued that it is important to maintain conceptual boundaries: that is, not to consider any one aspect of a relationship, including attachment, as representing the entire relationship. Greenberg, Speltz, and DeKlyen (1993) argued that there is a complex interplay between these constructs and, specifically, that a secure attachment relationship may be necessary but not sufficient to enable parents to perform the social control aspects of parenting.

At the present time, it is not known exactly how the development of compliance, attachment, and emotion regulation are related (Greenberg et al., 1993); however, the research discussed here suggests some tentative conclusions. Children in the extreme groups in terms of compliance are at high risk for psychopathology. Children who never comply (i.e., who are conduct disordered) are at risk for later psychological problems and/or conflict with the law while children who always comply (i.e., who compulsively comply) are likely to have been abused and/or neglected. Both groups are likely to have poor emotion regulation skills; children in the first group under-regulate emotional responses and are at risk for externalizing disorders while children in the second group over-regulate emotional responses and are at risk for

internalizing disorders. Quality of attachment is also likely to be compromised, particularly, if the child's relationship with their primary caregiver is abusive.

There has been only one study that has incorporated measures of all three constructs. Dryden, DeKlyen, and Speltz (1993, March) examined the emotion regulation skill and attachment status of 25 preschool boys aged 3½ to 5½ years who were referred to a child psychiatry clinic and met the diagnostic criteria in the DSM-III-R for oppositional defiant disorder (APA, 1987); they were compared to 25 normally behaving boys in a control sample. Dryden et al. found that 75% of the clinic sample: a) had an insecure attachment relationship with their mother, b) demonstrated poor self-control and emotion regulation skills, and c) had less harmonious relationships with their mothers. However, the other 25% of the boys in the clinic sample had: a) a secure attachment relationship with their mothers, b) relatively good self-control and emotion regulation skills, and c) mothers who related in a sensitive and supportive way. These results can be interpreted as support for the idea that parent-child relationships, in which children have behaviour problems, are most likely to be characterized by problems in attachment and emotion regulation. Results also suggest that there are at least two distinct etiological paths to the development of conduct disorder.

Greenberg and Speltz (1988) argued that there are two areas in parents' relationships with very young children where difficulties may lead to problems in the relationship: shared goals and coping with the emotions of self and other. The degree to which parents and children share goals in terms of activities and behavioural expectations within the family will affect the amount of conflict and the degree of cooperation in the relationship. Styles of emotion regulation will affect how conflict is resolved. Parents who are able to regulate their own negative emotional response when a conflict occurs will be better able to obtain their child's cooperation and minimize the conflict. These parents will also lessen the intensity of the child's emotional response and promote emotion regulation skills in their children. Similarly, the quality of an attachment relationship is determined by the pattern of interaction that occurs over time beginning in infancy. Parent-child relationships that result in non-secure attachment status are often characterized by a style of interaction where emotional responses are not effectively regulated and this pattern of interaction may maintain other problems in the relationship.

Trickett and Kuczynski (1986) compared the responses of abusive and non-abusive parents to their children's misbehaviour and found that while punishment was the most frequent response from both groups, abusive parents used punishment more often and were more severe. For the present paper, the most interesting finding was that both groups of parents responded to misbehaviour as often with negative emotions (e.g., depression, anxiety, and doubt) but abusive parents responded with anger significantly more often.

Trickett and Kuczynski controlled for the number of transgressions that provoked anger responses in parents. This ruled out one explanation for their result: that children of abusive parents produce a greater number of transgressions. A more plausible explanation is that abusive parents have less skill at regulating their anger responses or at regulating other negative emotional responses, which then escalate to produce anger. Misbehaviour rates of children in the two groups were equal in all categories except a "moral aggressive" category. This category included unprovoked aggression and out of control anger and was more frequent in children of

abusive parents.

This research suggests that emotion regulation abilities, especially concerning anger, are deficient in these families for both parents and children. A likely developmental progression would include deficient emotion regulation skills in parents who would not promote emotion regulation skills in their children; they would likely promote an insecure attachment relationship since they would be less able to respond appropriately to their infant child's signals of emotional distress.

Researchers have investigated the relationship between attachment and compliance with mixed results. In a longitudinal project specifically designed to assess the link between the two constructs, Bates, Maslin, and Frankel (1985) and Bates and Bayles (1988) found that security of attachment assessed at one year of age did not predict mothers' reports of behaviour problems at either 3 or 5 years of age. In contrast, Erickson, Sroufe, and Egeland (1985) found that security of attachment assessed at 12 and 18 months was a strong predictor of behaviour problems at 5 years; children securely attached as infants showed fewer problems at 5 years. Bates and Bayles (1988) found indications that some mother-child interaction variables and patterns of emotional communication were related to behaviour problems at age 5 years. Specifically, the "relative absence of affectively positive, educative interactions" (p. 293) was related to higher rates of both internalizing and externalizing behaviour problems at age 5.

One difference in the two sets of studies is that Erickson et al. used both teacher-report and direct observation to assess behaviour problems while Bates et al. relied upon maternal report. There were differences in sample characteristics with more single parent, low income, and highly stressed families in the Erickson et al. sample. Children with insecure attachment relationships may be at greater risk for the development of behaviour problems or, alternatively, a secure attachment relationship may be a protective factor for children in high stress, high-risk families. This supports the contention that attachment and compliance are separate constructs since they were unrelated in the Bates et al. study. For children from the more stressed families, a secure attachment relationship to their mother may be related to a lower rate of behaviour problems if the positive relationship experience with their mother makes it easier to cooperate in other relationships. This would support Bowlby's (1988) contention that attachment is a system that applies to more than a single relationship; experience in one relationship would affect the "internal working model" and expectations of other relationships.

Parpal and Maccoby (1985) found that mothers who were instructed to follow their three- or four-year-old child's lead during a play session (i.e., to comply with their child) obtained a higher rate of compliance on a later experimental task than mothers who first had a free play or a noninteractive session. Mothers' behaviour in the responsive play condition was less directive and less critical than that of mothers in the free play condition. Lay, Waters, and Park (1989) replicated and extended this study; they obtained the same effect in terms of child compliance in a second experiment where children first received a positive mood induction instead of the play session. The results of Lay et al.'s second study support the conclusion that the effect in the Parpal and Maccoby experiment was obtained because their mothers' attention during the play situation induced a positive mood in this group of children.

This research suggests a role that emotion regulation may play in obtaining compliance.

Dyads that deal directly with alleviating negative mood states will make a positive mood more likely. Children who have the ability to regulate their own negative emotions or whose parents assist them in emotion regulation are more likely to maintain a positive mood state and to be more cooperative or compliant. Pappalardo and Maccoby suggested that parental cooperation allows children to feel that they are in a mutually cooperative relationship and, thus, children more likely follow what they call a "cooperation script." It should be noted that "cooperative" is not the same as permissive; it would be permissive not cooperative if a parent acquiesced each time a child expressed opposition or negative emotion.

An analogous result was obtained by Rocissano, Slade, and Lynch (1987) who examined the conditions under which 16- to 20-month-old children followed their mothers' instructions regarding a tea party script. Mothers who based their instructions on the child's activity more frequently obtained compliant responses than mothers who attempted to be more directive and rigidly followed their own script for the activity. Successful mothers allowed the child some control over the proceedings and were responsive to their child's shifts in focus of attention.

Children who have been physically abused by a caregiver frequently develop a style of interaction that Crittenden and DiLalla (1988) called "compulsive compliance." These children become "hypervigilant" to the behaviour of the abusive caregiver and attempt to anticipate the needs or demands of the caregiver in the belief that prompt compliance will prevent further abuse. Sometimes, they may attempt to comply before a request or demand is made. This style of interacting often generalizes to other relationships so that the child's development of social skills is constrained.

Crittenden and DiLalla (1988) also found that abused infants tend to have a limited range of emotional expression. The constraint on emotional expression, especially of negative emotion, is a result of interaction with the abusive caregiver. At six months, 95% of their sample of abused children expressed anger in interaction with their mother while only 30% at 15 months and 5% at 36 months did so. The range of emotional expression is restricted in abused children who often appear sad or depressed to observers. It seems that abusive parents' ability to regulate their own emotion is restricted and their reaction to their children's anger may be a factor in their abusive behaviour. Crittenden and DiLalla speculated that this may explain why younger infants (under 2 years) are subjected to more severe abuse; perhaps older children have learned that it is self-protective not to express negative affect.

Compulsive compliance can be seen as a maladaptive emotion regulation technique used by abused children. In essence they are trying to regulate their fear response to the presence of the abusive caregiver by regulating their caregiver's emotion. By attempting to meet the demands of the caregiver before they are expressed, they attempt to forestall an anger response. As noted above, abusive caregivers more frequently respond with anger (Trickett & Kuczynski, 1986).

Abusive treatment of children, particularly by a caregiver, also affects the quality of the child's attachment relationship. These children are often classified as disorganized/disoriented, or Category D in the Strange Situation (Main & Solomon, 1990). Main and Solomon found that Category D attachment was independent across caregivers: 31 of 34 Category D infants in their sample were placed in that category in relation to only one parent. Thus, attachment status is

related to the history of interaction in the relationship.

Parents of children classified as Category D often have unresolved trauma from their own childhood that interferes with effective parenting behaviour (Main & Hesse, 1990). However, not all infants classified in Category D have been abused or neglected. Frequently, their parents exhibit frightened or frightening behaviour as a result of their unresolved trauma; they may respond to their infant in a way that increases rather than decreases the infant's anxiety. Main and Hesse (1990) provide several examples of unusual movement, speech patterns, or speech content that have been observed in parents of Category D infants. Parental trauma may include the death of an attachment figure during their own childhood or sexual or physical abuse about which they have not resolved their feelings and responses. In these parent-child relationships both partners often have poor emotion regulation skills. The emotion regulation skills of parents are deficient and they do not provide appropriate models to assist their children in the development of these skills.

Egeland et al. (1988) found that mothers who had been abused when they were children were able to break the cycle of abuse; that is, they were less likely to abuse their own children if they had been able to resolve their emotional reaction to their own abuse. If the mothers abused as children a) received emotional support from a non-abusive adult during childhood, b) had received therapy related to the abuse as an adult, or c) had an emotionally supportive relationship with a spouse, they were much less likely to abuse their own children.

Some referrals to child psychologists are presented as being related to compliance issues while further examination shows that the compliance problems serve to mask other issues. An 11-year-old girl, Jane, was referred to my clinical practice by her mother, who was concerned about her behaviour. Jane had externalizing (she had become extremely defiant and aggressive) and internalizing disorders (she hoarded food, drank glue, and ate the heads off matches).

Understandably her mother was concerned about these behaviours. In the initial interview, Jane disclosed for the first time a history of sexual abuse where her step-father was the perpetrator. Neither her mother nor other persons had known about this abuse. In addition to the sexual abuse, her stepfather had been physically and emotionally abusive to Jane's mother and the parents had separated. However, her mother planned to reunite with the stepfather and Jane was concerned about the danger of further abuse of herself and her younger sister. She was unwilling to disclose her fears to her mother as she worried she would hurt her mother who continued to care for the stepfather. This could also be seen as a problem of emotion regulation as, prior to therapy, Jane had no effective way to reduce the arousal caused by her fear. Once she disclosed the previous abuse and her continuing fear, she felt more secure and her anxiety regarding her safety and that of her sister was reduced. All of Jane's problematic behaviours ceased following her disclosure, her mother's consequent decision not to reunite, and the beginning of a police investigation regarding the sexual abuse.

Dryden et al. (1993, March) suggested that their research would enable clinicians to develop more appropriate therapeutic interventions. Greenberg and Speltz (1988) and Speltz (1990) developed intervention strategies for children with behaviour problems and their families that incorporate techniques developed from attachment theory. Speltz (1990) presented a treatment model that includes an assessment period and four treatment phases. The first phase

includes parent-training in developmental issues that informs parents about typical social and emotional behaviour for the age of their child. The second phase focuses on "child-directed interaction" and incorporates a version of the "Child's Game" initially developed by Forehand and McMahon (1981). The third phase is parent-training in limit setting and the fourth phase is communication training for parents and child; role-playing is a primary technique in this phase. Overall, the model focuses on issues in attachment and emotion regulation and their roles in the development and treatment of behaviour problems.

Speltz stated that there is, as yet, little empirical evidence that this treatment model is more effective than others such as the social learning model developed by Forehand and McMahon (1981). However, it is theoretically richer in that it specifies the areas of development that it addresses while Forehand and McMahon were less specific. For example, the "Child's Game" not only promotes compliance, as Pappalardo and Maccoby (1985) showed, but can have an impact upon attachment since parental responsiveness is a central factor in the quality of attachment and upon emotion regulation since the procedure assists parents in taking their children's point of view and becoming more empathic.

Conclusions

In this paper, I have focused on three central areas of children's social development and examined how they are affected by interaction between children and their parents. One conclusion that can be drawn from this review is that a cooperative relationship between parents and children is associated with children's development of: a) secure attachment relationships, b) skills for coping with negative emotions, and c) greater propensity to comply with parental requests.

Compliance has been presented as an index of the degree of cooperation between parent and child. Parents have short- and long-term goals for their children that may or may not be shared by the child at a particular time. When goals are shared, conflict will be infrequent. However, when goals are not shared, a solution will be needed to resolve the conflict. Parents have more power and competence and, therefore, more influence in developing appropriate solutions to conflicts, especially when children are young. They will be more successful in the long term if they are able to find solutions that allow the child to: a) express and learn to regulate their emotional responses, b) develop and maintain a warm, affectionate, and secure attachment relationship, and c) within the limits of the child's competence, develop and maintain self-control over behavioural choices.

Case Commentary. As discussed earlier, the relationship between Rodney and his mother, Mary, is dysfunctional on many levels. Compliance, attachment, and emotion regulation are problem areas for both mother and child. The problems in this family are multi-generational and there is little support for change from other family members or from the community. Therefore, the prognosis for Rodney is bleak and he will likely have life-long difficulty in forming attachments. Social cooperation will be difficult for him and he will likely be in trouble with the law and at school. Like other young men in his community, he is likely to begin to drink alcohol in adolescence and to engage in other dangerous, risk-taking behaviour. An adolescent male

from Rodney's community who was my client, frequently contemplated suicide and made several suicide attempts because his mother was angry with him; another young man went on a shooting spree in the community because his former girlfriend dated another man. These are two examples of the dysfunctional emotion regulation skills used by young people in this community; Rodney is at high risk to engage in similar behaviour.

In individual cases, such as the one discussed here, it is difficult to determine which problem area has priority. In other cases, interventions that assist clients to regulate feelings and responses related to negative emotions have been successful. Based on the clinical and research evidence discussed in this paper, emotion regulation skills appear to be essential to children's ability to cooperate and to parents' ability to be a supportive, non-threatening attachment figure.

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